

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 170460-BF	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/NO2003/000415	International filing date (<i>day/month/year</i>) 12-12-2003	Priority date (<i>day/month/year</i>)
International Patent Classification (IPC) or national classification and IPC See Supplemental Box		
Applicant LJUNGMANN, Torstein et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☒ (*sent to the applicant and to the International Bureau*) a total of 1 sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:
- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 11-07-2005	Date of completion of this report 09-03-2006
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Form PCT/IPEA/409 (cover sheet) (April 2005)

Express Mail No. EV746687267US

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of Cover sheet

International patent classification (IPC)

G01N1/44(2006.01)

G05D23/19(2006.01)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/NO2003/000415

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____,
which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☐ the international application as originally filed/furnished
- ☒ the description:
pages 1-7 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☒ the claims:
pages _____ as originally filed/furnished
pages* _____ as amended (together with any statement) under Article 19
pages* 8 received by this Authority on 14-11-2005
pages* _____ received by this Authority on _____
- ☒ the drawings:
pages 1-4 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/NO2003/000415

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-6</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-6</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-6</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Amended claims 1-6 were filed on 14 November 2005.

Documents considered as being of particular relevance:

D1 US 6580056

D2 DE 29801918

A main object of the invention is to provide an apparatus for heat treating of tissue specimens enabling programming of a step-by-step heating course. This is achieved by an apparatus with a control unit which is arranged to control a programmed step-by-step heating course.

D1 (e.g. column 3, line 63 - column 4, line 28; abstract; figure 7) is considered to represent the closest prior art. It discloses an apparatus for heat treatment of biological specimens, comprising a pressure cooker (10), temperature sensor (29), pressure sensor (13) and a control unit (14). The control unit (14) is arranged in a manner that it can control a programmed step-by-step heating course (see column 4, lines 14-16). The apparatus of claim 1 differs from D1 in that it comprises a vent valve coupled to the pressure cooker and that the control unit also is arranged to control a step-by-step cooling course from the chosen maximum temperature down to a chosen final temperature. This difference has the effect of providing a quick and controlled cooling of the pressure cooker.

A person who has knowledge of D1 faces the problem of providing a quick and controlled cooling course of the cooker.

D1 has no indication of providing a cooling course by using a vent valve. The apparatus of claims 1-6 is, therefore, considered to involve an inventive step. The invention is also considered to fulfil the criteria of industrial applicability.

Patent claims

5 1. An apparatus for heat treatment of tissue specimens, comprising a pressure
cooker (1) for cooking of the tissue specimens, a temperature sensor (5) and a pressure
sensor (6) connected to the pressure cooker, and a control unit (15) for time-controlled
heat treatment of the tissue specimens in the pressure cooker (1), the control unit (15)
being arranged to control a programmed step-by-step heating course, with a programmed
10 time duration on each temperature step, from a chosen start temperature up to a chosen
maximum temperature, characterised in that it comprises a vent valve (8) coupled to the
pressure cooker (1), and that the control unit (15) also is arranged to control a
programmed step-by-step cooling course, from the chosen maximum temperature down to
a chosen final temperature.

15 2. An apparatus according to claim 1, characterised in that the control unit (15)
comprises a processor unit which controls the relevant temperature courses by means of a
data program.

3. An apparatus according to claim 1 or 2, characterised in that it comprises a
vacuum pump (11) which is connected to the pressure cooker (1) via an electric valve
20 (10), to reduce the pressure in the pressure cooker to a desired value.

4. An apparatus according to one of the claims 1-3, characterised in that the
pressure cooker (1) and the control unit (15) are integrated in a treatment apparatus (20)
which also is arranged to carry out dewaxing of tissue specimens on microscope slides
before the heat treatment in the pressure cooker.

25 5. An apparatus according to claim 4, characterised in that the treatment
apparatus (20) comprises a hot plate (23) for heating of the pressure cooker (1) with the
tissue specimens, a revolving unit (25) arranged under the hot plate and comprising a
rotatable plate (26) supporting an annular arrangement of vessels (28) for receiving
baskets (29) with microscope slides and a loading magazine (30) for baskets, a driving
30 motor for controlled step-by-step rotation of the revolving unit (25), and a hoist device
(40) for lifting and lowering of the baskets which are to be transferred from the loading
magazine (30) to the individual vessels (28) and from vessel to vessel.

6. An apparatus according to claim 5, characterised in that it includes a heating
stove (55) for heating of baskets (29) in the loading magazine (30).